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ABSTRACT

This paper explores the understanding one teacher constructed of his pedagogy as he taught his high school students using a "PEEL approach" (Baird and Mitchell, 1987; Baird and Northfield, 1992). He returned to high school teaching in order to experience first hand the daily struggles associated with attempting to teach for understanding. He arranged to have a classroom observer give him immediate feedback on his efforts from her perspective as an experienced PEEL teacher as well as offering the students' perspectives on their experiences as a result of discussions with the observer. A researcher worked with him to act as a "conduit" for developing meaning. The researcher and the observer actively framed and reframed events with the teacher during and after his experiences. Data used in this study include the teacher's daily diary, the observer's lesson feedback, students' feedback on lessons, students' written responses to experiences, and students' interview transcripts. The paper provides examples of the teacher's experiences to demonstrate how making sense of a pedagogical situation is enhanced if alternative frames of reference are developed, and that those alternatives are more likely to emerge through collaboration. Dewey's attitudes (open-mindedness, responsibility, and whole-heartedness) displayed and encouraged through the collaborative approach led to both a broadening of the teacher's understanding of his experiences and to an extraction of more substantial meaning from his experiences as a whole; this experience helped him align his beliefs with his practice. (Contains 8 references.) (SM)

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Being a conduit for learning: Understanding and interpreting feedback from teaching experiences.

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Introduction

This paper explores the understanding a teacher constructed of his pedagogy - as he attempted to teach his high school students using a 'PEEL' approach (Baird and Mitchell, 1987; Baird and Northfield, 1992) - through a collaborative enterprise involving two colleagues.

The teacher was an experienced teacher educator (the second author) and the collaboration was with the first author and a research assistant (Carol Jones).

Jeff Northfield returned to high school teaching in order to experience first hand the day to day struggles associated with attempting to teach for understanding. In so doing, he organised to have a classroom observer (Carol Jones) to give him immediate feedback on his efforts from her perspective as an experienced PEEL teacher as well as offering the students' perspectives on their experiences as a result of discussions with Carol. Jeff also decided to research his practice and to validate this study with a colleague (John Loughran). The book Opening the Classroom Door: Teacher, Learner, Researcher (Loughran and Northfield, 1996) fully documents Jeff's return to teaching, this paper explores how this 'conduit' to understanding practice influenced Jeff's perspective of his teaching and his students' learning through some of the themes raised in the book.

Returning to Teaching

Jeff had been teaching student-teachers at Monash University for 20 years and been heavily involved in the PEEL project. Through this project he became enthused by the efforts of many PEEL teachers and they actively sought to improve the quality of learning in their classes. One of these PEEL teachers was Carol Jones.

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As Jeff began to organise his move back into a high school he did so with the expressed purpose of not only having the experience but also researching it. Carol was therefore a critical component of this research as she was an experienced PEEL teacher who would be able to 'shadow' his classes and offer feedback from her perspective as an observer. Similarly, his collaboration with John was such that he 'trusted' that the research approach would help him to reframe his experiences in ways that opened his eyes to the teaching and learning environment in new ways.

Carol's role was to be a 'critical friend' for Jeff in the school. She was available to talk through his plans for his lessons, to debrief afterwards and to gather and offer feedback from the students' (and her) perspectives on the experiences. John was to become a 'conduit' for crystallising the research findings in ways that might help the experience be more than an 'improving pedagogy' story, but to lead to a genuine understanding of the research findings and assertions as guiding principles for Jeff's own practice.

The data for this study included:

- Jeff's diary which documented his understanding of the experiences each day,
- Carol's feedback on lessons,
- students' feedback on lessons,
- students' written responses to experiences,
- students' interview transcripts (taken from discussions with Carol and students).

Two particular instances are now offered to demonstrate how Jeff came to better understand his experiences. One drawn from his journal and one from his students' feedback.

Findings

The following examples are designed to illustrate how working through others, Jeff's understanding of his experiences were enhanced such that he came to reframe (Schön, 1983; 1987) events in ways that led him to extract meaning from the daily rush and bustle of high school teaching.

Example 1: Breaking set

"Breaking set" is a term which Jeff used to describe the acceptance of the adjustments and changes he needed to make as a teacher as he learned to teach in a different context. Breaking set was part of his need to accept responsibility for what the class did and how they did it. His use of the term "set" is similar to that of White's (1988) idea of a "script" whereby the day to day events of the classroom, and the approaches to teaching and learning, follow a prescribed (or accepted) pattern. In Jeff's case, he recognised that the students had a view of classrooms, what they had to do and how they had to do it and it was one with which they were comfortable - it was generally teacher centred. Students listened, did what was necessary, and the proceedings would come to a halt at the sound of the bell. Any departure from the "set" could lead to a favourable response if it was an enjoyable variation from the "set", but for the students, this could not become part of the set as it did not constitute real school learning; it was viewed with some suspicion. Jeff's concern was to find the right time and level of trust to introduce activities which required thinking and encouraged acceptance of responsibility for their own learning. He found it difficult when he moved from the "set" (expected classroom approach) because of the unsettling effect created through the new situation (often accompanied by management issues). So "breaking set" placed him in a less certain classroom environment, yet one that he was in fact seeking and the initial reactions of the students had worried him.

In his journal he questioned whether he was capable of "breaking set" as he struggled with the challenge of teaching for understanding. However, at that time, what he did not seem to so readily recognise was that "breaking set" was equally important for the students as it was for him. His third term of teaching demonstrated how his attempts to break set unfurled as he became more conscious of this and as the students also started to accept (and react to) the expectations of learning for the class. Breaking set was not a one way operation, the students also had to "break set" if they were to become comfortable in Jeff's classes.

In teacher education courses, student-teachers are commonly told that, "Students do not admit to not understanding work, so do not ask if they understand because they will generally say yes rather than admit to needing help." As a teacher educator, Jeff may himself have raised this issue with his student-teachers. Yet despite this, an important journal entry in the first week of third term appears almost routine; it is entered as though there is nothing unusual about it. He notes how he feels that he has gained the trust of most of the

students and that they are willing to say that they do not understand. But his immediate response to this is to link it with the management problems created as he is drawn to work with individuals rather than the whole class.

> ***July 21st***
>
> *She (Kate) is an example of someone with ability - not challenged at times. I used to think the topic of multilevel teaching was an example of teachers searching for a panacea. I now realise it is a real problem. In some ways I believe I have gained the trust of most students and they are willing to say they do not understand. When they do I create a management problem as I must be willing to take up the problem yet it is of little concern to others in the class. Perhaps I need to get into the habit of small group attention while the rest of the class is working...I cannot connect my work to the teaching learning strategies - my background and experiences do not allow it. Not a good time - I feel I am in limbo - not an academic or a teacher.*

He considers the need to develop a habit of small group attention to alleviate this concern but does not dwell on the importance of a learning behaviour that for most students is quite a change. Added to this, he is also not sure of his role.

By the end of the first week of term three he notes what to him is now a common practice. Most students complete practical class tasks quite well and accept responsibility for cleaning-up the laboratory. Through these classes he is now able to see an important difference between his hopes for students' learning, and their individual views. He recognises that some students accept that they will not understand some areas of the work and so have no determination to fully understand everything. "Why should they struggle and persist, not knowing something is the normal state of affairs?" His problem is that although he notes this, it is not clear that he is prepared to accept it. Herein lies the constant dilemma which causes the roller coaster ride of emotional highs and lows as a result of his teaching efforts which so frequently crop up in his journal. He seeks to change the students' attitude towards learning. The attitude is likely to be as a result of learning to cope with a school routine that implicitly develops an attitude to learning which does not reinforce the notion of learning for understanding. The difficulty he creates for himself and the students is that he persists (just as many teachers do), but he persists beyond that which is "normal" for many teachers. So even though the students understand his purpose and accept his view of his role as a teacher, it may be that it is in fact easier for them to accommodate this persistence rather than change to meet the real expectations. Breaking set is then an

important change in behaviour and doing so is difficult from either the students' or the teacher's perspective. It may well be that neither Jeff not the students actually know what it is that they are doing as they begin to "break set".

> ***July 26th***
> *Well I don't think the excitement or sense of achievement is ever going to come. Two activities designed to encourage interest and involvement were "lost" in the continual effort to insist on attention. When given routine tasks they put their heads down and do what is required. As soon as I introduce something different requiring some thinking and activity I "break set". It may be a mixture of excitement and an opportunity to "show off". Anything different is unsettling and it would be so easy to stay with routine tasks. My admiration for PEEL teachers is immense. How did they do it? Why did they persist? The huge range of possible teaching-learning activities "evaporates" in the reality of classrooms. Student expectations and ability to set the context are extremely powerful. The importance of encouragement and support is obvious and perhaps the effort to do it alone is too much I wonder why I continue to search for new ideas when I am disappointed with the way they turn out...there is a "dailiness" in teaching and I needed to be reminded.*

As he thinks about what he needs to do to break set, he does not seem to pay sufficient attention to the same demands that the students also face to make this transition. Yet in many ways they are showing that they not only have the ability to break set but that they have (gradually) started to do so. It could be that at this time he is beginning to really see that it is for the students to decide how they will react to learning opportunities, he can not do it for them.

> ***August 2nd***
> *Maths class began with some discussion of the [maths] competition. Tended to be wider acceptance of the competition activities [than expected]...set up the demonstration of lead "freezing" in boiling water. Not easy with the class around the front desk. Interesting to note that most people expected the lead to "freeze" and felt that the bubbles in boiling water were steam. Some restlessness which lead me to stop everything and ask them to put their hands on their head. An interesting response was the immediate quiet. It was seen as an extreme response by me and had an immediate effect. Not a memorable teaching episode. I doubt that I am making science or maths any more relevant and exciting for students. Is it "breaking set" for me or the students that is causing the "problem"?*

He now considers an alternative view of the classroom. He has come to accept the constant struggle from his perspective in "breaking set" but only now really comes to empathise with the students. He believes that they must accept responsibility for their own actions, he knows that he can not learn for them, he knows that he cannot mandate their change, and now he realises that they too struggle with the changing learning expectations

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of the classroom and that they have to "break set" if they are to move ahead in this different teaching-learning environment. After one activity in a science class when he asked the boys to role-play solids, liquids and gases, he took up a learning issue with the students. He asked whether or not they should do activities like role-plays. He believed that if he could get the students to accept responsibility for the class that they would progress further. He needed to create an opportunity that might demonstrate the value of thinking for the students.

> ***August 6th***
> *The idea of wishing to understand does not seem to be relevant. This is not what one does at school. The maths class was an example of how quickly they will complete routine activities but when asked to show evidence of understanding, they demonstrate a resistance to thinking. Thinking appears to be something I am concerned about - not part of what is and should be done at school...[I need] an opportunity to do something to illustrate the usefulness of thinking...(Rene, Rhonda, Michelle, Gary, Fred) set limits on where you might move (the guardians of what counts as school work).*
>
> ***August 9th***
> *..this remains the main problem - extending those with the greatest ability while keeping up the confidence of some others...Last period was science and I introduced a concept map ("ideas map") for change of state. After the initial uncertainties they got down to the task and seemed to understand why we were spending time on such a strange activity. It went better than I expected and I am encouraged to try the strategy again. I gave them the homework task and added a question asking them to assess their own effort and give reasons for their assessment. No surprise expressed at this requirement - perhaps this was something they expected*

It would seem then that at the very time that Jeff is questioning the need to break set (for him and for his students) that in fact that is what is slowly happening. Perhaps like many of the changes that have occurred in their classroom, the changes are more gradual than is immediately noticeable from one day to the next and that there is a lag time associated with Jeff's questioning the situation. He seems to be questioning in a way that builds on his expectations without necessarily recognising the gains that have already been made.

Through this developing understanding of breaking set Jeff came to a realisation which at the time was not as apparent to him as it was through later analysis and discussion with John. In fact, it is this follow-up and interest by a colleague in the research which helped to highlight the importance of breaking set from both the teacher's and students' perspective.

As the issue unfolded in Jeff's diary it was simply one of many issues which emerged and re-emerged over time. However, from John's perspective it was a crucial issue in helping to explain and better understand both the teaching dilemmas Jeff faced and the apparent unwillingness of the students to 'want' to be active learners; to learn from understanding was not a 'usual' expectation or practice in schools, the students infact found this somewhat disconcerting.

The learning through this experience (as well as others more fully explored in Opening the Classroom Door) led to the following assertions. We would argue that the collaboration through research was therefore crucial in establishing these assertions.

Nature of Learning

1. Quality learning requires learner consent.
2. Learning is done **by** rather than **to** students.
3. Student prior experiences are crucial and often do not fit the learning demands expected.
4. Effort and risk taking are critical for learning.
5. Understanding is rarely experienced, and not expected, by many students.

Source: Chapter 11, Opening the Classroom Door: Teacher, Researcher, Learner (Loughran and Northfield, 1996)

An important point about the fleshing out of these assertions is that it demonstrates how much of a teacher's tacit knowledge can be made more explicit and articulable, and in so doing, become crucial foundations to understanding practice.

Example 2: The Velcro Story

One of the reasons why Jeff undertook the teaching allotment was to seek opportunities to use PEEL type activities; as other teachers had shown the positive impact they had on students' confidence and ability as learners. Through the Velcro lesson, Carol's involvement in the classroom and her first interactions with students become important in shaping Jeff's understanding of classroom events.

> Well if he does boring stuff like Velcro. You don't really want to learn about Velcro....Besides, when you're old it's not as if someone's going to ask you, Do you know where Velcro comes from? (Donna)

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The "velcro lesson" captures some of Jeff's hopes and aspirations for the teaching experience. The task for students was to read a short account of the discovery of velcro. The title and sub-headings used in the original story were deleted and students were first asked to write in appropriate sub-headings and provide a title for the story. The activity represented an attempt to give opportunities for students to be more active in their learning. Past experience had suggested that these tasks, in association with the reading, encouraged a more careful and thoughtful response to the story. The description of this lesson is therefore chosen because it indicates the types of thinking activities Jeff was seeking to introduce.

This account begins with an extract from the journal. The extract extends to comments about the following lesson on that day and an extract from the following day to place the velcroexperience into a wider context and show the short-term nature of the student responses. Each lesson is, to some extent, a separate event for the students.

> ***7th October***
> *What a day. Carolcame to the first lesson and they were restless. The group (Linda, Gayle, Kate and Claire) were keen to establish their status. The task - The Discovery of Velcro was done as a task. They knew what we were trying to do, "make us think and understand". The creative, thinking aspects appeared to be acknowledged but not valued. The group took most of the "air-time" making responses and looking for approval. In fact they are gaining little support from their classmates (except Trish and Rhonda at times). Carol seemed to get good responses from Michelle and Katebut in fact they (the group) are gaining too much of the time and others are being left. Good discussion with Carol afterwards and she seemed to be more accepting of the situation and did not regard it as a lack of progress. When (if ever) do students value thinking.*

The Velcro lessonwas a disappointment if one considers the purposes for the task. "They knew what we were trying to do", but there were doubts about whether this was a valid task in the classroom. "Why should we write a title when it is probably going to be wrong?" "Who wants to know about velcro?" The activity can be seen in the wider context of a small group of four students who were uncomfortable because, at this time, they were being labelled by friends in other classes as members of, "the best Year 7 class" - a statement being made by some teachers. This was not an image they wished to retain and they were seeking to make themselves and the class more "normal".

Carol'spresence created a new situation for students to deal with, and the lesson was inevitably a time of readjustment for the class. Carol's initial reactions to the class add to the story of the velcro lesson.

It was my first visit. Jeff and I arrive at 7D's assembly point to watch 7D straggle into place in "dribs and drabs". Each group announces its arrival boisterously.

"Hi Miss!" one of the girls says cheerily at the top of her voice. "What's your name?"

I try to look friendly but innocuous when I answer (I don't want to appear too familiar too soon but neither do I want to assume a teacher role). "I'm Miss Jones. What's your name?", I asked.

"I'm Kate

"I'm Michelle!" shouts another.

"I'm Linda and this is Gayle!" The girls call out names and vital pieces of information about themselves. I wonder whether they are always this restless or whether they're keen to impress the visitor with their charm! The boys are noticeably quieter but jostle each other good naturedly.

Once inside the science room the noise level increases. A group of girls immediately and loudly take possession of the back row. My new acquaintances, Kate and Michelle, are there. Other girls fill the next row while the boys arrange themselves at the front. Jeff tells me later that this is the opposite to the usual arrangement. One of the girls is having trouble finding a seat. She is invited to join two groups but distances herself deliberately by moving a chair to a vacant bench in the third row.

Jeff tries to start the class several times without much success. The back-seat girls call out interruptions and squirm around while the font-seat boys are more quietly subversive. As one trouble spot is smoothed over another outbreak occurs somewhere else in the room. Eventually Jeff waits in silence (and waits and waits) and after some time the lesson begins.

Over coffee in the staffroom "The Story of Velcro" had seemed like a good idea. A neatly packaged, self-contained lesson, just what the teacher ordered. Read an interesting scientific anecdote, interact meaningfully and personally with the text by making up your own heading, looking for unfamiliar words and designing your own questions; then participate in a stimulating class discussion leading perhaps to a well-taken point about the serendipity of scientific discovery. Voila!

That was the plan anyway.

Why then did Linda spend the entire lesson colouring in her science book with a lurid silver marker? Was it really necessary for Rhonda to ask every girl in the class if they knew what to do and still not start the task? Did Kate and Michelle need to spend quite so long discussing what they planned for the weekend at five decibels? Does the quest for a red biro always turn into a wrestling match amongst thirteen-year-old boys? And why was a quarter of the class out of their seats at any one time?

I circulate, chatting to students. Kate and Michelle volunteer that they aren't interested in the story of Velcro. "It's boring! What's it got to do with us anyway?" They like "doing things", subjects like Physical Education, Drama and Art, rather than "thinking about things". History is also considered irrelevant although it sometimes has a bit of relevance they concede if it is about something current they are interested in - like the Olympics.

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I ask them what they would find interesting in Science and they can not think of much. Michelle says blithely that it isn't necessary to know how or why things work, only to be able to use them. Kate thinks that evolution and creation might be interesting. Even so, they tell me that Jeff has to make them do this stuff because, "It's his job". That doesn't mean they have to show any interest in it.

Amidst the disruption most students tackle the work and a short discussion ensues but it is marred by constant interruption. Quite a few students have their hands up at various times but aren't asked for their contributions as Jeff is dealing with miscreants. Some appear annoyed.

The discussion jerks along to a conclusion just before the bell (Could students have cooperated just enough to get out on the bell?) and perhaps surprisingly many students come to the point about scientific discovery which Jeff was hoping for. Most have completed the set tasks.

I leave feeling that I have just met a fairly typical Year 7 class, one which is reminiscent of many I have encountered before [in my own teaching].

During the following ten weeks as Carol interviewed class members, ten students raised "The Story of Velcro" spontaneously. John and Nick merely mentioned it and laughed; one wonders why. Most of the ten mentioned it in the context of boredom and several then proceeded, like Donna at the beginning of the story, to wonder at its relevance.

Carol: When you do something in science can you usually see why Mr Northfield might want you to be doing it, learning it?

May: Oh, sometimes.

Liz: Sometimes. But with the Velcrol don't know. I don't see. I suppose we kind of did it ... I don't know. Why'd we do the Velcro?

May: I don't know.

So despite all the good intentions of the teacher, despite the planning, thinking, organisation and (hoped for) relevance, a good idea for a thought provoking lesson designed to encourage students to be actively involved in their own learning does not appear to have lived up to expectations. But this is an important aspect of the nature of teaching, learningand schooling, so the story of velcro offers an appropriate focus from which to begin to explore these further.

For Jeff as the teacher, being concerned with individuals, with the class as a group, and with his own desire to develop more responsible learners, required a deeper understanding of the context of learningwith this particular

group of students; and it may well be that such an understanding was only possible by researching his own practice. This was enhanced through the involvement of Carol as she was able to offer Jeff insights into events that he was too busy to notice as he attempted to manage the class while he was trying to teach for understanding.

Through the interviews and interactions Carol had with the students she was able to help Jeff see the Velcro story as part of a bigger issue in terms of his understanding of the importance of creating conditions for learning. As the Velcro story continually re-emerged it linked with other events and experiences which did not got 'quite to plan' and helped Jeff again begin to draw principles of practice from the experience in ways that would not have been so evident or articulable without the help of Carol. In essence, Jeff was encouraged to step back from the single experience and to consider it in relation to a number of associated issues which emerged in similar ways. The following assertions were articulated as a result of learning through experience in this fashion.

Creating Conditions for Learning

6. Teacher change precedes student change.
7. Changes in assessment (beliefs and practice) are essential. Students must see ideas and activities which improve learning being valued.
8. Self-confidence and trust are critical attributes for students.
9. There is a need to have a balance between management demands and maintaining learning opportunities in the classroom.
10. Students can have a significant impact on classroom climate. It only takes a few students to make a big difference.
11. There is a limit to the thinking and learning demands that can be placed on students.

Source: Chapter 11, Opening the Classroom Door: Teacher, Researcher, Learner (Loughran and Northfield, 1996)

Conclusion

The examples used in this paper are designed to demonstrate that making sense of a pedagogical situation is clearly enhanced if alternative frames of reference are developed and that these alternatives are more likely to emerge through collaboration. Just as Dewey's (1933) 'attitudes' are precursors for the development of reflection in pre-service student-teachers (Loughran, 1996), so these attitudes (open-mindedness, responsibility, whole-heartedness) displayed and encouraged through the collaborative approach adopted by Jeff led to both a broadening of his understanding of his experiences and of extracting substantial meaning from the experiences as a whole.

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John and Carol were conduits for the development of this meaning as they actively framed and reframed events with Jeff during and after his experiences so that his reflection on experience was more than a reconsideration of events from a singular perspective. Through Jeff's purposeful involvement of others he display reflective practice in a form which sought to understand problematic situations in the way in which Dewey (1933) originally described as,

> Reflective thinking, in distinction from other operations to which we apply the name of thought, involves (1) a state of doubt, hesitation, perplexity, mental difficulty, in which thinking originates, and (2) an act of searching, hunting, inquiring, to find material that will resolve the doubt, settle and dispose of the perplexity. (Dewey, 1933, p.12)

Through this process of active, collaborative reflection on experience, Jeff came to better know and understand his pedagogy and his students' learning through an extended shared adventure (Loughran and Gunstone, 1996). Perhaps more importantly, he also began to articulate his professional knowledge in a manner which might demonstrate for other teachers the value of being able to make the tacit explicit so that one's principles of practice might be used as a purposeful guide for shaping approaches to practice, ie: better aligning beliefs with practice.

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